

MODULAR MINI DIGITAL VIDEO
CASSETTE RACK

FIELD OF THE INVENTION

This invention relates to storage racks for electronic storage cassettes. More particularly this invention relates to a rack system which comprises vertically and horizontally interlocking modular units.

BACKGROUND OF THE INVENTION

There is a need for a rack system to store mini digital (D.V.) video cassettes. Mini D.V. cassettes are used in high end camcorders primarily by professional videographers. It is advantageous to store these cassettes in a rack so that a content label, positioned along a rear edge portion thereon, may be displayed. Such a rack also facilitates individual removal and replacement of a selected cassette.

Individuals typically begin with a few mini D. V. cassettes. Every month or so they acquire more cassettes. A rack which initially appears to provide more than sufficient capacity soon becomes inadequate. Accordingly, a storage and organization rack for the

cassettes needs to be expandable. What is needed is a modular rack system. A system based on a modular unit which can be readily connected to other modules on lateral, top, or bottom side portions. Such a system would facilitate integration of modular units into a functional unified structure which displays and organizes any quantity of cassettes in a space of specified dimensions.

OBJECTS OF THE INVENTION

It is an object of this invention to disclose a modular rack system having modular rack units which can readily connect on lateral sides, on top, or on a bottom side portion to another modular unit without disassembly so that the rack system may be expanded with minimal disruption. It is yet a further object of this invention to disclose a modular unit assembly for the modular rack system which comprises a minimal number of non-standard components so that the modular unit assembly can be fabricated with minimal capital and per unit costs. It is yet another object of this invention to disclose a modular unit assembly which is releasably and lockably connectable to a similar modular unit assembly. The modular unit assembly may be firmly interconnected to another such modular unit without disassembly so that the resulting modular rack system is both rigid and stable.

One aspect of this invention provides for a modular rack for storing and organizing cassettes comprising: a rack assembly having a generally rectangular left and right side member, each side member having an outer and an inner side portion, a front and rear side

portion, and a top and bottom edge portion; wherein each said inner side portion has a plurality of spaced cassette end supports, each of which generally extend between the front and rear edge portion of the side member, and, a rear cassette stop positioned to limit rearward sliding of one of the cassettes along the end support; and, wherein each inner side portion has an upper and lower spacer to space and maintain the left and right side portions in parallel juxtaposition and, the spacers extend between spacer attachment means on the side members; and, wherein the outer side portions of the left and right side members each have a lateral rack attachment means so that assembled rack unit assemblies may be laterally attached to each other.

In a preferred aspect of this invention the top and bottom edge portions of the left and right side members have interlocking top and bottom edge portion attachment means so that assembled rack unit assemblies may be vertically attached to each other.

Various other objects, advantages and features of this invention will become apparent to those skilled in the art from the following description in conjunction with the accompanying drawings.

FIGURES OF THE INVENTION

Figure 1 is a perspective view of a modular rack for holding and organizing cassettes.

Figure 2 is a partial exploded perspective view of a modular unit assembly in the modular rack shown in figure 1.

The following is a discussion and description of the preferred specific embodiments of this invention, such being made with reference to the drawings, wherein the same reference numerals are used to indicate the same or similar parts and/or structure. It should be noted that such discussion and description is not meant to unduly limit the scope of the invention.

DESCRIPTION OF THE INVENTION

Turning now to the drawings and more particularly to figure 1 we have a perspective view of a modular rack system 22 for holding and organizing cassettes 18. Figure 2 is a partial exploded perspective view of a modular unit assembly 20 in the modular rack system 22 shown in figure 1. The rack system 22 comprises a rack assembly 20 having i) a generally rectangular left side member 24 and right side member 26, each side member 24, 26 having an outer and an inner side portion, a front and rear side portion, and a top and bottom edge portion. Each said inner side portion 24,26 has a plurality of spaced cassette end supports 26, each of which generally extend between the front and rear edge portion of

the side members 24,26 and, a rear cassette stop 28 positioned to limit rearward sliding of one of the cassettes 18 along the end support 26. Each inner side portion has upper and lower spacers 30 to space and maintain the left and right side members 24,26 in parallel juxtaposition. The spacers 30 extend between spacer attachment means 32 on the left side member 24 and the right side member 26. The outer side portions of the left and right side members 24,26 each have a lateral rack attachment means 36 so that assembled rack unit assemblies 20 may be laterally attached to each other.

In the most preferred embodiment of the invention, the top and bottom edge portions of the left and right side members 24,26 have interlocking top and bottom edge portion attachment means 40 so that assembled rack unit assemblies 20 may be vertically attached to each other. Most preferably one of the interlocking top and bottom edge portion attachment means comprises a dove tail 44 and the other comprises a mated female portion 42, so that the lower portion of one assembled rack unit assembly 20 may interlock with the upper portion of another assembled rack unit assembly 20. Most preferably the cassette end supports 26 extend rearwardly and downwardly from the front edge portion to the rear edge portion of the side members 24,26, to maintain the cassettes 18 therein in position within the rack unit assembly 20. Most preferably the rear cassette stop 28 extends continuously from the top edge portion to the bottom edge portion of the side member.

In the most preferred embodiment of the invention there are two upper and two lower spacers 30, all of which extend between the left and right side portions of the side

members in the rack assembly, and wherein each spacer extends between corresponding corners of the generally rectangular side members 24,26. The spacers 30 comprise tubular cylinders 46, and wherein the spacer attachment means 32 comprise cylindrical pegs 36. The left and right side members 24,26 of the rack unit assembly 20 are molded from plastic. The lateral rack attachment means 36 comprises the outer side of one of the left and right side members 24,26 having 4 corner pins 38 and the other outer side of the left and right side members 24,26 having 4 mating pin receptors 39 so that similar rack assemblies 20 may be laterally attached to each other.

In the most preferred embodiment of the invention each modular rack assembly 20 is designed to support 10 cassettes 18. A rack side foot 48 and rack side header 50 are provided. The rack side foot 48 interlocks with the bottom portion of a rack side member 24,26 and provides a base for the rack unit assembly 20 on a supporting surface 52. The rack side header 50 interlocks with the top portion of a rack side member 24,26 and provides an aesthetic top portion for the rack unit assembly 20.

While the invention has been described with preferred specific embodiments thereof, it will be understood that this description is intended to illustrate and not to limit the scope of the invention, which is defined by the following claims.